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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/784,345      | 02/23/2004  | Junichi Asada        | 10873.1408US01      | 2351             |

7590 03/06/2007  
Hamre, Schumann, Muller & Larson, P.C.  
P.O. Box 2902-0902  
Minneapolis, MN 55402

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| EXAMINER |
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BIBBINS, LATANYA

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2627

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 03/06/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/784,345 | <b>Applicant(s)</b><br>ASADA ET AL. |  |
|                              | <b>Examiner</b><br>LaTanya Bibbins   | <b>Art Unit</b><br>2627             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims** 1-21

- 4) ☒ Claim(s) ~~1-21~~ 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1, 5, 8-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group a (Figure 1) in the reply filed on February 7, 2007 is acknowledged. Claims 4, 5, and 8-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

### *Priority*

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

3. The abstract of the disclosure is objected to because of its undue length. Applicant is reminded of the proper format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet **within the range of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (herein AAPA) and further in view of Kubota (US Patent Number 4,577,941).**

Regarding claim 1, AAPA discloses an optical pickup comprising optical elements (Figure 11), light from a light source traveling via the optical elements so as to be collected on an information recording medium (paragraph [0004] and Figure 11 element 111), the optical elements comprising: a collimator lens that collects divergent light from the light source so as to form parallel light (paragraph [0004] and Figure 11 element 112); a beam shaping element that alters an intensity distribution of the parallel light in cross-section (the beam shaping prism in paragraph [0005] and Figure 11 element 113); an objective lens that collects light passing through the beam shaping element onto the information recording medium (paragraph [0006] and Figure 11 element 117); wherein the optical elements comprise an optical element that is secured to a supporter (the rising mirror in paragraph [0009] and Figure 11 element 116)

and a second astigmatism that occurs when the parallel light passes through the beam shaping element, the parallel light having a phase distribution generated by a difference between: (a) an amount of a change in optical path length between a

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luminous point of the light source and a principal point of the collimator lens, which results from thermal expansion or thermal contraction of a structure including the light source and the collimator lens due to the temperature change; and (b) an amount of a change in focal length of the collimator lens (see paragraphs [0013]-[0020] and further in paragraph [0024]).

AAPA fails to teach, but Kubota teaches that the optical element secured to the supporter generates first astigmatism due to deformation caused by a temperature change, wherein the deformation caused by the temperature change is generated due to a difference in linear expansion coefficient between the optical element that generates the first astigmatism and the supporter, and the first astigmatism is equal in size and is opposite in polarity to a second astigmatism (see column 4 lines 60-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kubota with AAPA. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to cause the astigmatism of the optical apparatus to be substantially zero (column 3 lines 19-21) such that the small spot formed on the reading surface of the optical disc by the objective lens becomes substantially circular (column 5 lines 34-37).

**Regarding claim 7**, AAPA teaches the optical element generating the first astigmatism is a mirror that is provided at a position before or after the parallel light passes through the beam shaping element (see the rising mirror in Figure 11 element 116).

In addition, Kubota teaches the optical element generating the first astigmatism is a mirror that is provided at a position before or after the parallel light passes through the beam shaping element (see column 5 lines 65 and 66).

***Allowable Subject Matter***

7. Claims 2, 3, and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Regarding claims 2, 3, and 6**, none of the references of record, alone or in combination suggest or fairly teach an optical pickup, including all of the limitations of claim 1, wherein the first astigmatism is generated by utilizing **the optical element generating the first astigmatism that has a difference in deformation amount between different directions when the temperature is changed** in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

***Citation of Relevant Prior Art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Kobayashi (US Patent Number 6,434,105 B1)** discloses an optical pickup device with a beam converting optical system that has a function of suppressing the occurrence of astigmatism (column 7 line 59 – column 8 line 59).

**Nakayama et al. (US Patent Number 4,815,059)** disclose a temperature-compensated optical pick-up device having a structure which is not adversely affected by fluctuations in the ambient temperature. It is so structured that the focal distance of the coupling lens varies in accordance with a change in the wavelength of the laser beam emitted from the laser which is caused by the change in the ambient temperature, so that the change in the distance between the laser and the coupling lens is effectively cancelled by the change in the focal distance of the coupling lens, whereby the laser beam passing through the coupling lens remains collimated even if the ambient temperature changes.

**Noethen et al. (US Patent Number 5,255,015)** disclose an athermally compensated optical head for a laser scanner in which a predetermined coefficient of thermal expansion of the material of the lens mount is chosen to compensate for the changes in focal length of the collimator lens versus changes in ambient temperature over the predetermined temperature range.

### ***Conclusion***

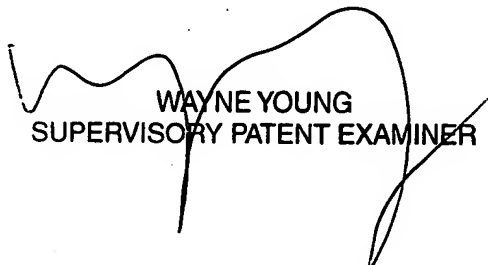
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
LaTanya Bibbins

  
WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER